

Mr. John Osolin
Remedial Project Manager
Emergency and Remedial Response Division
United States Environmental Protection Agency – Region 2
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New York, NY 10007-1866

Ms. Lynn Vogel
Case Manager
New Jersey Department of Environmental Protection
401 E. State Street
Mailcode 401-05F
Trenton, NJ 08625-0420

RE: Evor Phillips Leasing Company Superfund Site (Program Interest #G000004877, EPA ID #NJD980654222) –
Old Bridge Township, Middlesex County, New Jersey
Operable Unit 3 (OU3) – Downgradient Groundwater
Confirmation Report

FILE: 19726/51308 Corres

Date: August 6, 2021

Dear Mr. Osolin and Ms. Vogel:

On behalf of the Evor Phillips Leasing Company Superfund Site Settling Defendants (Group), Ramboll Americas Engineering Solutions, Inc. (Ramboll) has prepared this Downgradient Groundwater Confirmation Report for the Evor Phillips Leasing Company (EPLC) Superfund Site (Site) in Old Bridge, New Jersey. The groundwater confirmation activities were conducted downgradient from the Site based on prior project discussions between the United States Environmental Protection Agency (EPA), the New Jersey Department of Environmental Protection (NJDEP) and the Group regarding the status of downgradient groundwater conditions following the previously-conducted In-Situ Chemical Oxidation (ISCO) injections for the Operable Unit 3 (OU3 – Site Groundwater) remedial action.

The downgradient groundwater confirmation activities were completed along the upgradient boundary of the CPS-Madison Superfund Site (located downgradient from the EPLC Site), and in accordance with the approved Downgradient Groundwater Confirmation Workplan (Workplan) dated January 6, 2021. As stated in the Workplan, the objective of the activities was to confirm the understanding of groundwater conditions downgradient from the Site, specifically:

- The suitability of the existing groundwater monitoring well network for future monitoring of downgradient groundwater conditions.
- That the estimated potential extent of downgradient Site-related groundwater impacts presented in the February 2020 Offsite Groundwater Evaluation is representative of downgradient groundwater conditions.

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This report describes the activities completed, the findings from the work, and an evaluation of the findings relative to the workplan objectives.

BACKGROUND

The Site is located in Old Bridge, New Jersey, is approximately 6 acres in size and is currently unoccupied. Historical operations (reported between 1970 and 1986) resulted in soil and groundwater impacts at the property. Remedial investigations and clean-up activities conducted at the Site since the 1980s include:

- Removal of containers as part of initial response actions
- Installation and operation of a Groundwater Treatment System (GWTS) as a remedial measure for groundwater – the system installation was completed in 1999 and the system operated from 2002 through late 2013, when operations ceased in preparation for an in-situ chemical oxidation (ISCO) groundwater remedy
- Additional investigations and soil removals in the 1990s, as well as demolition of a majority of the on-site buildings and structures
- Additional soil removal and installation of soil cap across the western portion of the Site in 2012
- Implementation of an ISCO groundwater remedy from 2014-2015, including two rounds of oxidant injections for addressing residual constituents in Site groundwater (primarily low concentrations of TCE and 1,2-DCA)

The design and implementation approach for the ISCO remedy selected by EPA for OU3 is described in the Remedial Design Report/Remedial Action Work Plan (RDR/RAWP) approved by the EPA on January 13, 2014. Two rounds of ISCO injections were completed in February/March 2014 and June 2015 in accordance with the RDR/RAWP, to address residual concentrations of Site-related constituents (primarily 1,2-dichloroethane [1,2-DCA] and trichloroethene [TCE]) in Site groundwater. Monitoring of Site and downgradient groundwater concentrations by sampling Site and offsite monitoring wells has been performed since 2015 to evaluate groundwater conditions following the ISCO injections. A Hydropunch™ investigation was performed in 2018 at 8 locations (HP-1 through HP-8) along the railroad right-of-way near the southern Site boundary (OBG Part of Ramboll, April 2019). Each location was sampled at multiple depths (3 each, extending to 40-50 feet below ground surface [ft bgs]) for VOCs. The 2018 Hydropunch™ investigation locations and downgradient monitoring well locations are shown on **Figure 1**, and Site historical groundwater sampling results are included on **Figure 2**.

An evaluation of off-Site groundwater concentrations downgradient from the Site was completed by the Group and submitted to EPA/NJDEP in February 2020 (Offsite Groundwater Evaluation Technical Memorandum, February 28, 2020). The evaluation considered the Site groundwater monitoring data collected following the completion of the ISCO injection work and the 2018 Hydropunch™ investigation results, as well as available groundwater data from the downgradient CPS/Madison Superfund Site. Key findings and conclusions from the evaluation include the following:

- Groundwater concentrations of 1,2-DCA and TCE in offsite groundwater are laterally and vertically delineated, spatially discontinuous, and declining over time.
- Evaluation of groundwater quality data downgradient of the Site indicates that groundwater impacts potentially related to the Site attenuate to the New Jersey Groundwater Quality Standards (GWQS) upgradient of the Perth Amboy well field and the proposed location of the CPS-Madison Superfund Site remedy.

The approach and key findings from the evaluation were presented by the Group to EPA/NJDEP on June 16, 2020. Based on subsequent discussions with the agencies, EPA/NJDEP requested that an additional, focused Hydropunch™ investigation be conducted downgradient from the Site.

In accordance with the approved workplan and as described further herein, the recent Hydropunch™ investigation was located further downgradient from the Site than the 2018 Hydropunch™ work. The objective was to confirm that groundwater quality conditions downgradient from the Site are consistent with the February 2020 evaluation and protective of potential downgradient receptors. The results of the Hydropunch™ investigation would also be used to evaluate the suitability of the existing downgradient monitoring well network (primarily including the WCC-1 and MW-23 well clusters) to provide representative groundwater monitoring results for future evaluation of downgradient groundwater quality, and assess the potential need to install an additional monitoring well(s) for the same purpose.

GROUNDWATER CONFIRMATION ACTIVITIES

The groundwater confirmation field activities were completed in April 2021 in accordance with the approved Workplan, summarized as follows:

- Six (6) Hydropunch™ borings (HP-9 to HP-14) were completed from April 23 through April 30, 2021 in the approved off-Site locations along the upgradient boundary of the CPS-Madison Superfund Site near Old Water Works Road, as shown on **Figure 1**. The Hydropunch™ locations were selected based on review of prior Hydropunch™ and groundwater monitoring results and based on discussions with EPA/NJDEP. The potential presence of subsurface utilities was evaluated via required One Call notification procedures and surface geophysical methods prior to drilling, as well as the use of soft dig excavation methods during the work.
- The Hydropunch™ borings were completed to an approximate depth of 50 ft below ground surface (bgs). Consistent with the 2018 Hydropunch™ work, three (3) groundwater grab samples were collected from each Hydropunch™ boring. The groundwater grab samples in each boring were generally collected in the range of 20 to 25 feet bgs, 30 to 35 feet bgs, and 40 to 50 feet bgs. Specific sample depths were selected based on soil boring information (e.g., presence/depths of silt-clay lenses). Hydropunch™ locations were abandoned via grouting to the ground surface following completion. Following the completion of the Hydropunch™ work, the soil boring and Hydropunch™ locations were surveyed by a New Jersey-licensed land surveyor for longitude, latitude and ground surface elevation. A summary of the Hydropunch™ boring locations and the discrete groundwater sampling depth intervals for each is presented in **Table 1**, and soil boring logs for the work are included as **Attachment C**.
- A round of synoptic groundwater elevation measurements was completed at existing monitoring wells (consistent with previous annual groundwater monitoring events at the Site and prior 2018 Hydropunch™ work) in conjunction the with Hydropunch™ field work. The objective of collecting the additional groundwater elevation data was to confirm groundwater flow direction/elevations at the time of the Hydropunch™ work and to support evaluation of the Hydropunch™ sampling results. Groundwater elevation measurements are provided on **Table 2**, and groundwater elevations/flow contours are depicted on **Figure 1**.
- The Hydropunch™ groundwater samples were analyzed by a New Jersey certified laboratory (SGS Accutest) for Target Compound List (TCL) VOCs via USEPA Method 8260, consistent with the prior

2018 Hydropunch™ work and prior groundwater sampling events at the Site. QA/QC samples (field blanks, field duplicates, and MS/MSD) were also collected for VOCs analysis. Analytical results are provided in **Table 3**.

GROUNDWATER CONFIRMATION RESULTS

Figure 1 depicts the groundwater elevation contours and interpreted flow directions based on the April 2021 groundwater elevation measurements collected concurrently with the Hydropunch™ activities. The groundwater flow direction and elevations shown on **Figure 1** are consistent with previous Site data. As shown, groundwater generally flows southwest from the EPLC Site toward the existing downgradient monitoring well network (i.e., MW-23 and WCC-1 well clusters).

The Hydropunch groundwater sampling results are included as **Table 3**, and the Hydropunch locations (HP-9 through HP-14) are shown on **Figure 3** together with a summary of selected groundwater sampling results. A geologic cross-section is included as **Figure 4**, which depicts the subsurface conditions encountered during the Hydropunch™ work. **Figure 4** also depicts the specific depths where the discrete groundwater samples were collected during the Hydropunch™ work, and includes the 1,2-DCA and TCE analytical results for the sampled locations. For comparison, **Figure 4** also depicts existing monitoring wells located in the vicinity of the Hydropunch™ locations (CPS-4, WCC-1S, WCC-1M, and CPS-5) together with their screened intervals, and also the 1,2-DCA and TCE concentrations analyzed in samples collected in 2019 (also refer to **Figure 2** for a more detailed presentation of historical sampling results).

By allowing for the sampling of several discrete intervals, the Hydropunch™ technology provides a means to identify spatial variation in groundwater concentrations and delineate extent of impacts consistent with the objectives of the program. However, Hydropunch™ and monitoring well sampling results may not be directly comparable. Hydropunch™ samples are collected from a smaller depth interval than samples from a monitoring well (usually screened at least five feet), which increases variability in grab sample results compared to an averaged value from a longer screen. Hydropunch™ samples may also contain higher amounts of sediment and fines than monitoring well samples which flow through the well filterpack, which may elevate results due to inclusion of sorbed mass.

The following is a summary of key results/findings based on the Hydropunch™ activities completed:

- As shown on **Figure 3**, 1,2-DCA and TCE are the predominant COCs detected in groundwater at concentrations above the New Jersey Groundwater Quality Standards (GWQS). This finding is consistent with the historical groundwater monitoring results for the existing downgradient wells (MW-23 and WCC-1 well clusters) as shown on **Figure 2**.
- The Hydropunch™ results confirm the lateral extent of groundwater impacts. No volatile organic compounds (VOCs) were detected above GWQS at HP-9 or HP-14 located at either end of the transect, supporting prior conclusions that the lateral extent of site-related groundwater impacts is defined and consistent with the lateral extent presented in the February 2020 Offsite Groundwater Evaluation memorandum.
- The Hydropunch™ results confirm the vertical extent of groundwater impacts. VOCs were generally detected near or below GWQS in the deepest (40-50 ft bgs) sampling HP intervals, with the exception of the 45-47 ft bgs sample results at HP-13. This is consistent with the results from the existing downgradient groundwater monitoring well network which indicate that the vertical extent of site-related groundwater impacts is limited to approximately 50 ft bgs.

- While not necessarily directly comparable, as stated above, the Hydropunch™ results are consistent with results from the downgradient monitoring wells and do not identify any concentration "hot spots" that are not reflected by the current monitoring well network.
- A concentration of 29.5 ug/L of 1,2-DCA was measured in a discrete sample collected from HP-13 (45-47 ft bgs). This result is the highest from the Hydropunch™ investigation and is higher than the 5 ug/L measured in 2019 at the closest monitoring well WCC-1M, which has a ten-foot well screen. However, it is noted that the nearest vertical sample collected at HP-13 yielded a result of only 3.9 ug/L 1,2-DCA, at 32-39 ft bgs. When averaged, these two values are more consistent with results from sampling a 10-foot monitoring well screened interval. This is an example of the limitations in directly comparing results from Hydropunch™ and monitoring well samples.

In summary, the findings from the 2021 Hydropunch™ investigation as outlined above confirm the extent of downgradient Site-related groundwater impacts presented in the February 2020 Offsite Groundwater Evaluation memorandum and support the suitability of the existing downgradient monitoring well network (WCC-1 and MW-23 well clusters) to provide representative groundwater monitoring results for future Site monitoring purposes.

Summary of Downgradient Groundwater Quality and Delineation of Impacts

In the February 2020 Offsite Groundwater Evaluation memorandum, it was estimated that groundwater impacts potentially related to the Site attenuate to the New Jersey Groundwater Quality Standards (GWQS) upgradient of the Perth Amboy well field and the proposed CPS-Madison Superfund Site remedy location. The quantitative evaluation of concentration with distance used data from two (2) monitoring wells, MW-23I and WCC-1M, which are located along a groundwater flowpath in the approximate lateral center of downgradient impacts. The Hydropunch™ investigation confirms that the concentrations used in the 2020 analysis are generally representative of groundwater quality conditions in the downgradient area: no concentration "hot spots" were identified that would be inconsistent with the prior findings.

There is no evidence that groundwater from the Site is impacting the Perth Amboy wellfield, the primary receptor of concern. The Perth Amboy Wellfield is located approximately 4,000 feet south/southwest from the Site boundary, well beyond the CPS-Madison site. Our review of data from the Perth Amboy wellfield did not identify detections of 1,2-DCA and TCE at these supply wells. This is supported by groundwater delineation figures for 1,2-DCA and TCE from the 2015 Remedial Investigation Report for the CPS-Madison Superfund Site (**Attachment A**).

In the past, the USEPA also expressed an objective that groundwater associated with the Site should not impact the remedy for the CPS Site. The above analysis indicates that current Site groundwater conditions will not impact the CPS remedy. Continued monitoring of offsite groundwater will confirm that this remains the case.

Review of recent and historic concentrations of 1,2-DCA and TCE indicate that concentrations at wells downgradient of the Site, specifically at wells MW-23I and WCC-1M, which were used in the 2020 extent of impacts evaluation, are currently at low levels (i.e., generally in the range of 1-10 ug/L) and have decreased steadily over time (**Figure 5**). The continued decreasing concentrations of 1,2-DCA and TCE in downgradient groundwater are consistent with the information presented in historical Site documents such as the 2011 Remedial Investigation Report (RIR) (ARCADIS, 2011). The low and declining concentrations measured in offsite groundwater are consistent with the current phase of remediation,

specifically the gradual attenuation of residual COCs in groundwater following the completion of active on-Site remediation (e.g., OU2 soil remedial action completed in 2012, OU3 ISCO injections completed in 2014 and 2015). The Site is well-positioned for continued monitoring of declining groundwater concentrations to maintain protectiveness of downgradient groundwater receptors. Recommendations for continued groundwater monitoring are presented below.

CONCLUSIONS AND RECOMMENDATIONS

The 2021 Hydropunch™ investigation results as presented herein support the findings and conclusions from the 2020 Offsite Groundwater Evaluation, and are summarized as follows:

- The lateral/vertical extents and concentrations of Site-related COCs (1,2-DCA and TCE) identified from the 2021 Hydropunch™ investigation are consistent with the extent of downgradient Site-related groundwater impacts as presented in the February 2020 Offsite Groundwater Evaluation memorandum. These findings support the suitability of the existing downgradient monitoring well network (WCC-1 and MW-23 well clusters) to provide representative groundwater monitoring results for future Site monitoring purposes.
- The 2021 Hydropunch™ sampling activities yielded 1,2-DCA and TCE groundwater results that are similar to recent and historical downgradient monitoring data evaluated as part of the 2020 Offsite Groundwater Evaluation. These findings support that groundwater impacts potentially related to the Site attenuate to the New Jersey Groundwater Quality Standards (GWQS) within the CPS-Madison Superfund Site located downgradient from the Site, and are not impacting downgradient receptors of interest (Perth Amboy wellfield). Groundwater delineation findings for 1,2-DCA and TCE as presented in the 2015 Remedial Investigation Report for the CPS-Madison Superfund Site further support this conclusion.
- Due to the low concentrations of Site COCs in groundwater, the Site is well-positioned for continued groundwater monitoring to confirm declines in COC concentrations to GWQS.

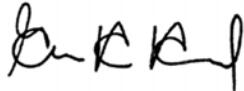
As requested by EPA/NJDEP based on recent project discussions, a preliminary list of proposed wells for future site groundwater monitoring is included as **Attachment B**. The list includes those wells that have been historically sampled as part of Annual Groundwater Protectiveness Monitoring events, with selected modifications including the following:

- Consistent with the February 2020 Offsite Groundwater Evaluation memorandum recommendations, existing downgradient wells CPS-4 and CPS-5 on the CPS-Madison Superfund Site will be added to the existing EPLC Site's downgradient monitoring well network to provide additional data as part of EPLC site future groundwater monitoring.
- Downgradient wells MW-14S, MW-23D and WCC-3M are recommended to be removed from the downgradient monitoring network, based on recent years of non-detect results for site-related COCs (1,2-DCA and TCE). Also note that MW-14S (an off-site well located on a neighboring industrial property) was destroyed during recent redevelopment activities on that property.

Pending EPA/NJDEP concurrence with the findings presented herein, a long-term monitoring plan will be developed and submitted for agency review. The next annual groundwater monitoring event will be scheduled for implementation following agency review/approval of the long-term monitoring plan.

If you have any questions, or would like additional information, please feel free to contact Jeff Levesque at 484-804-7255 or via email at Jeffrey.Levesque@ramboll.com.

Yours sincerely



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cc: Chris Young – de maximis, inc.
 Matt Grubb – de maximis, inc.
 Jeffrey Levesque, P.E. – Ramboll
 Katie Moran - Ramboll

Attachments:

Tables

1. Hydropunch™ Boring Locations and Sampling Intervals – April 2021
2. Groundwater Elevation Measurements – April 2021
3. Hydropunch™ Analytical Results – April 2021

Figures

1. April 2021 Groundwater Contour Plan
2. 2014-2019 Groundwater Sampling Results
3. Hydropunch™ Groundwater Sampling Results
4. Cross Section
5. Time-Concentration Plots

Attachments

- A. 1,2-DCA and TCE Figures - 2015 Remedial Investigation Report, CPS-Madison Superfund Site
- B. Proposed Future Site Groundwater Monitoring Wells
- C. Soil Boring Logs

TABLES

Evor Phillips Leasing Company (EPLC) Superfund Site | Old Bridge, New Jersey
Hydropunch Boring Locations and Sampling Intervals - April 2021
Table 1

Hydropunch / Soil Boring ID	Easting (NAD83)	Northing (NAD83)	Ground Surface Elevation (ft MSL)	Groundwater Sample Interval 1 (ft bgs)	Groundwater Sample Interval 2 (ft bgs)	Groundwater Sample Interval 3 (ft bgs)
HP-9	540,733.4	583,899.0	28.7	20 - 22	34 - 36	47 - 49
HP-10	540,655.7	583,857.7	26.6	20 - 22	32 - 34	43 - 45
HP-11	540,589.9	583,817.4	25.5	19 - 21	31 - 33	48 - 50
HP-12	540,516.8	583,785.4	25.5	21 - 23	34 - 36	44 - 46
HP-13	540,418.9	583,736.9	25.3	20 - 22	32 - 34	45 - 47
HP-14	540,315.1	583,684.7	25.1	20 - 22	32 - 34	48 - 50

Notes:

MSL = Mean Sea Level

BGS= Below Ground Surface

Evor Phillips Leasing Company (ELPC) Superfund Site | Old Bridge, New Jersey
Groundwater Elevation Measurements - April 2021
Table 2

Well ID	TIC Elevation (ft MSL)	Depth to Water ¹ (ft)	Groundwater Elevation (ft MSL)
ISCO-MW-1	46.23	19.05	27.18
ISCO-MW-2	48.92	20.23	28.69
ISCO-MW-3	51.28	22.96	28.32
ISCO-MW-4	44.67	16.59	28.08
ISCO-MW-5	47.81	20.44	27.37
ISCO-MW-6	48.78	20.97	27.81
ISCO-MW-7	46.30	17.92	28.38
ISCO-MW-8	50.19	21.79	28.40
ISCO-MW-9	48.79	20.26	28.53
IW1-BT-2	52.39	23.89	28.50
IW1-DR-1	57.46	28.88	28.58
IW-4S	50.80	22.87	27.93
PZ-1S	44.24	17.04	27.20
MW-5I	49.74	22.07	27.67
MW-6S	43.54	16.54	27.00
MW-9I	48.40	20.87	27.53
MW-10S	45.27	18.01	27.26
MW-11I	47.92	20.61	27.31
MW-15D	41.88	14.16	27.72
MW-19S	56.09	27.23	28.86
MW-23S	27.89	1.64	26.25
MW-23I	27.89	1.48	26.41
MW-23D	27.95	1.79	26.16
MW-24	42.46	15.64	26.82
MW-28	49.87	20.14	29.73
WCC-1S	24.83	0.07	24.76
WCC-1M	26.39	1.69	24.70
WCC-3M*	27.31	4.80	22.51
EW-3	44.38	16.31	28.07
CPS-4	27.44	3.09	24.35
CPS-5	27.50	3.34	24.16

Notes:

(1) Depth to water is measured in feet below top of inner casing

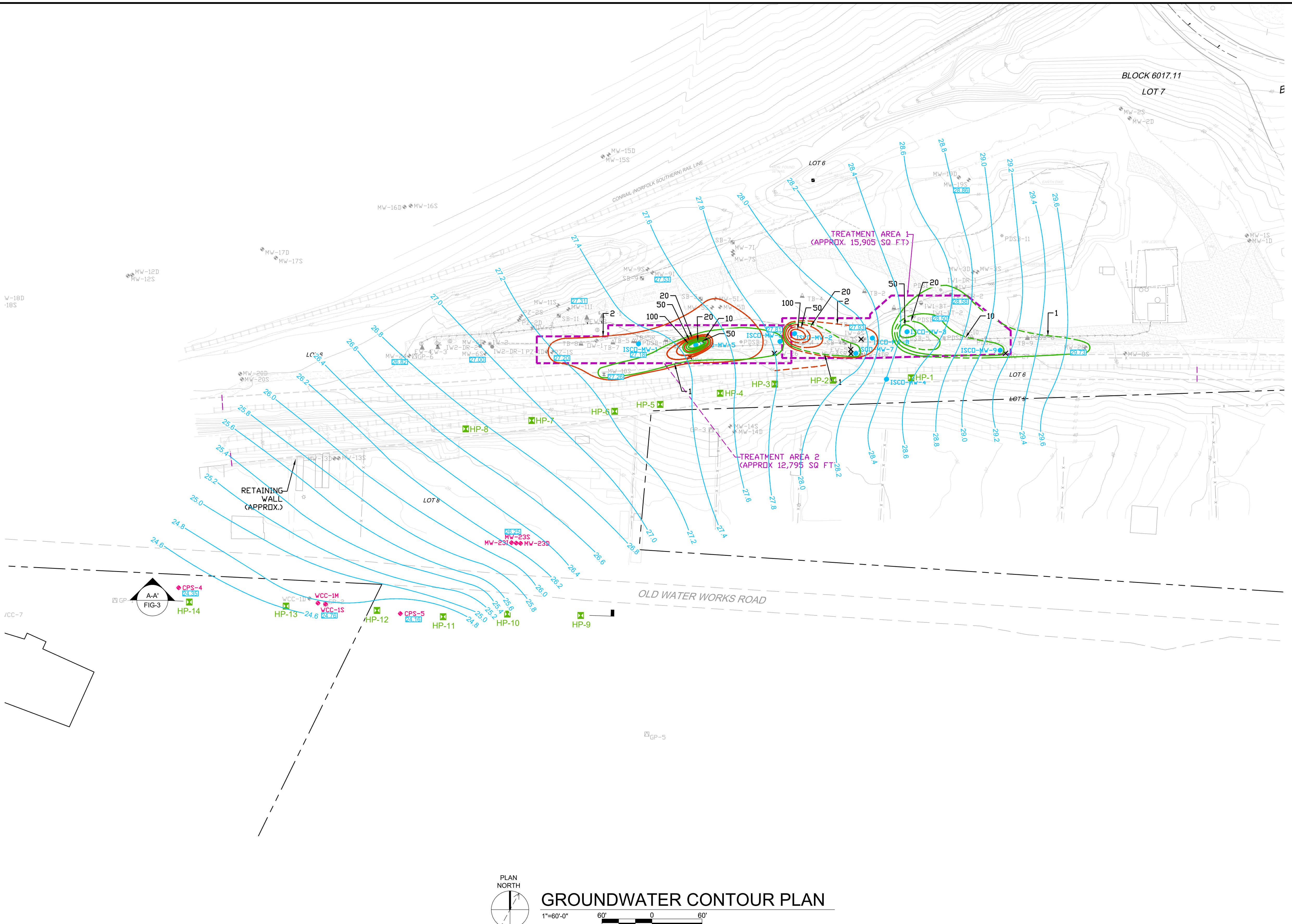
* Depth to water measurement taken from Outer Casing

TIC = top of Inner Casing

MSL= Mean Sea Level

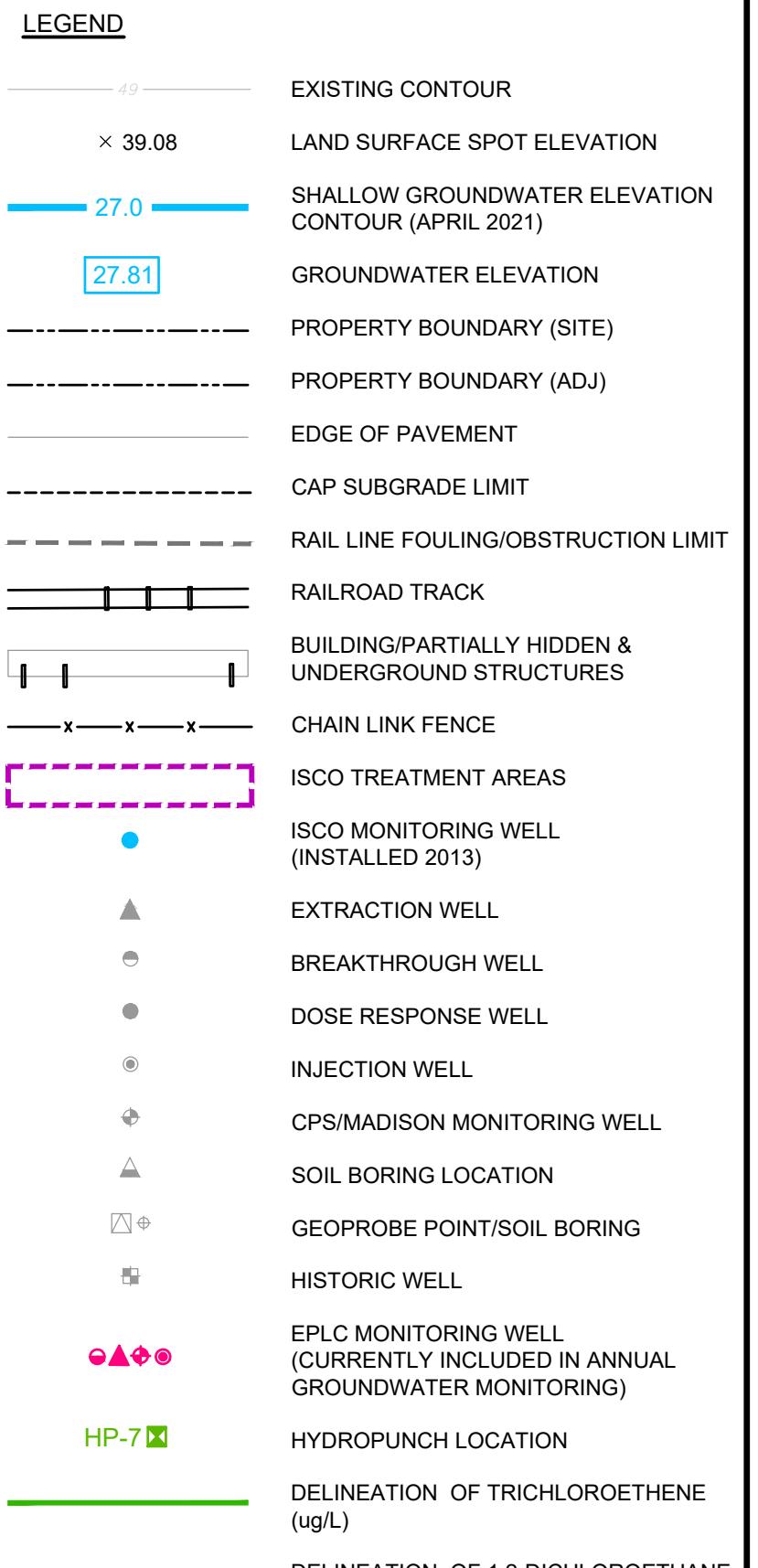
All measurements were collected on 4/21/22, except for MW-23S, MW-23I, MW-23D, WCC-1S, WCC-1M, WCC-3M, CPS-4, and CPS-5 which were collected on 4/22/21

FIGURES



NOTES:

1. RAIL LINE FOULING/OBSTRUCTION LIMITS ARE 15' FROM CENTERLINE OF RAIL IN EACH DIRECTION.
2. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NAVD 1988.
3. EXISTING GRADE ELEVATIONS AND LOCATIONS WERE OBTAINED BY MASER CONSULTING, PA ON AUGUST 10, 2012 & JANUARY 14, 2013.
4. TCE AND 1,2-DCA ISO-CONTOURS REPRESENT 4TH POST-ROUND 2 INJECTION GROUNDRWATER CONDITIONS.



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CLIENT
**EVOR PHILLIPS LEASING
COMPANY SITE**

NO.	DATE	REVISION	INT.

DESIGNER / PROFESSIONAL ENGINEER RESPONSIBLE
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DESIGNED BY **K.CUSACK** FILE NO. **10726.51308**
CHECKED BY **J.LEVESQUE** DATE **AUGUST 2021**
DRAWN BY **M.MONTAGNA**

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

**EVOR PHILLIPS LEASING COMPANY SITE
GROUNDWATER SCREENING REPORT**
ADDRESS **NEW JERSEY**

**APRIL 2021 GROUNDRWATER CONTOUR
PLAN**
DRAWING LOCATION

FIG-1

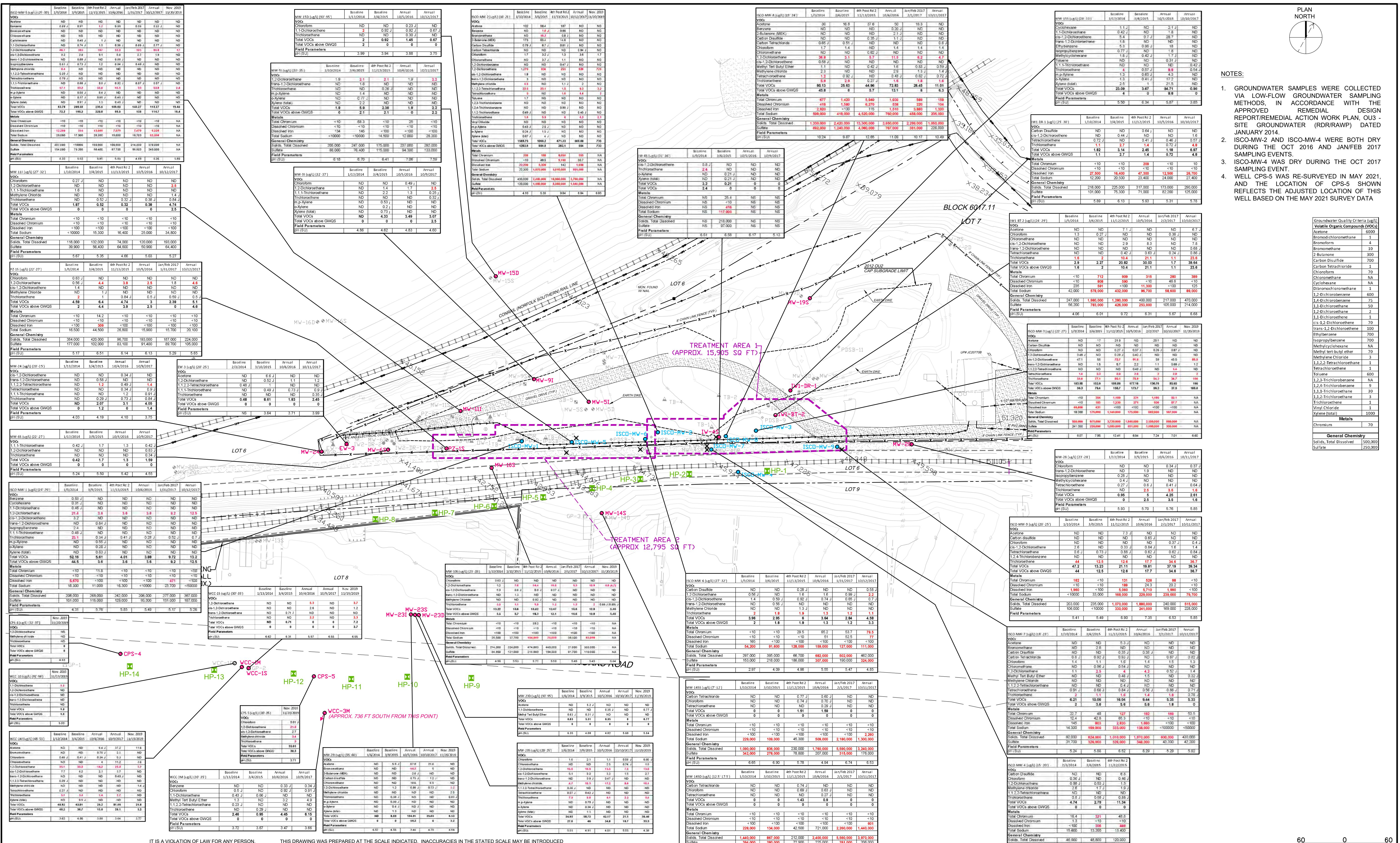
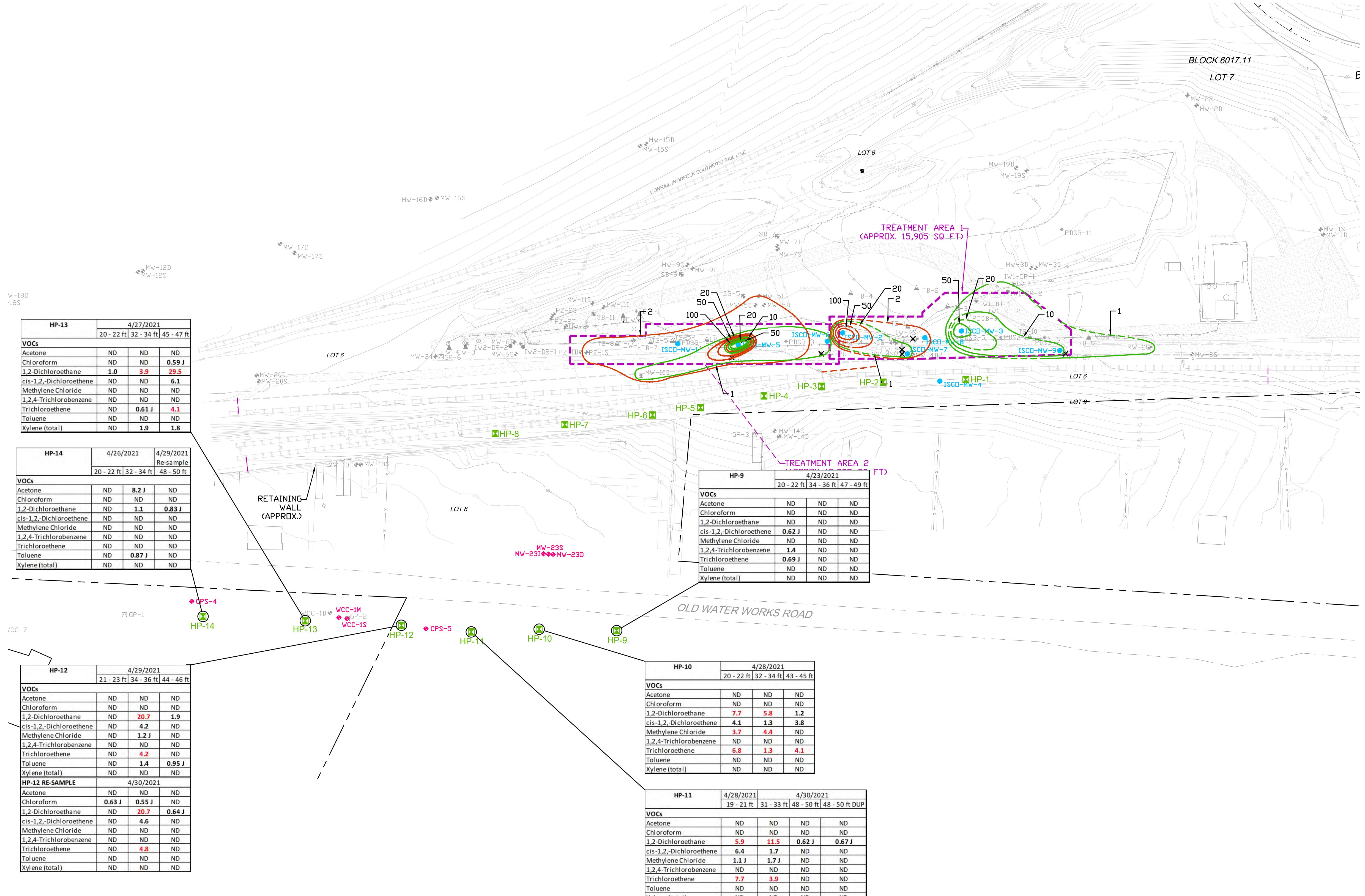


FIG-2



HYDROPUNCH GROUNDWATER SAMPLING RESULTS PLAN

1"=60'-0"

60' 0' 60'

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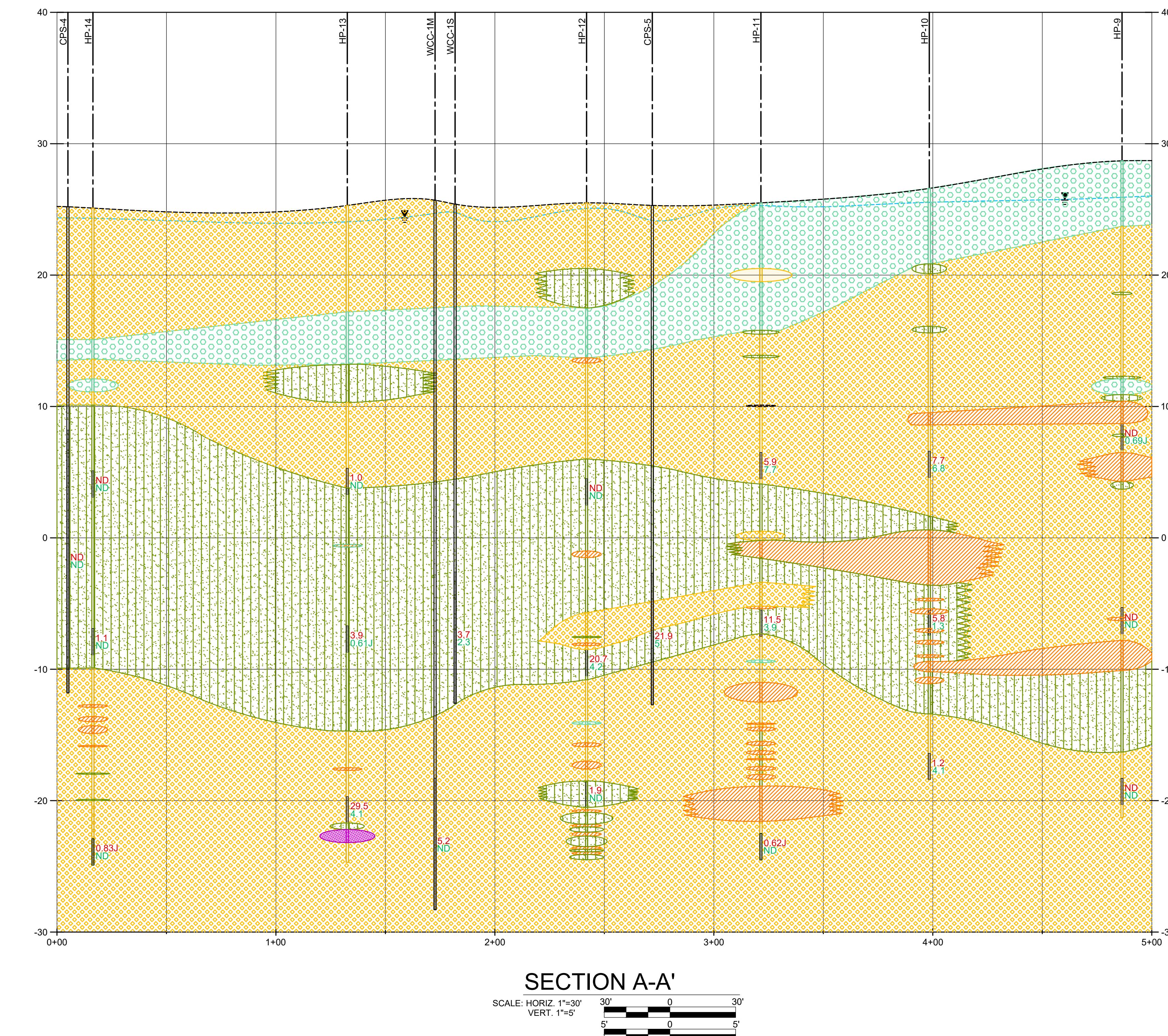
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DESIGNED BY **K.CUSACK** FILE NO. **10726.51308**
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DRAWN BY **M.MONTAGNA**

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PROJECT
**EVOR PHILLIPS LEASING COMPANY SITE
GROUNDWATER SCREENING REPORT**
ADDRESS **NEW JERSEY**

SHEET DESCRIPTION
**HYDROPUNCH GROUNDWATER
SAMPLING RESULTS**
DRAWING LOCATION

FIG-3



LEGEND

	SAND & GRAVEL
	SAND & FINES
	CLAY
	SAND
	ORGANICS & FINESS
	WELL SCREENING INTERVAL
ND	NON-DETECT
NS	NOT SAMPLED
58	1,2-DICHLOROETHANE (ug/L)
14	TRICHLOROETHENE (ug/L)
▼	WATER TABLE
	APPROXIMATE WATER TABLE ELEVATION

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CLIENT
**EVOR PHILLIPS LEASING
COMPANY SITE**

NO. DATE REVISION INT.

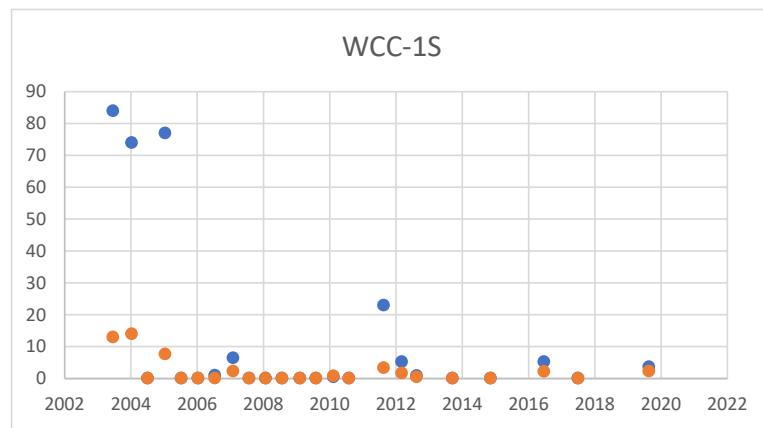
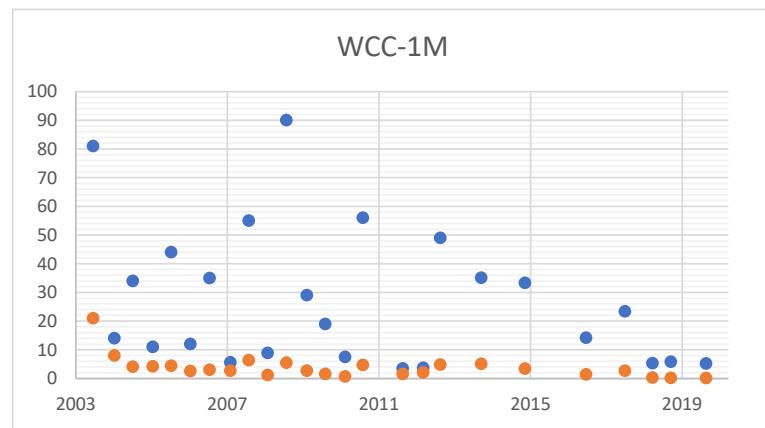
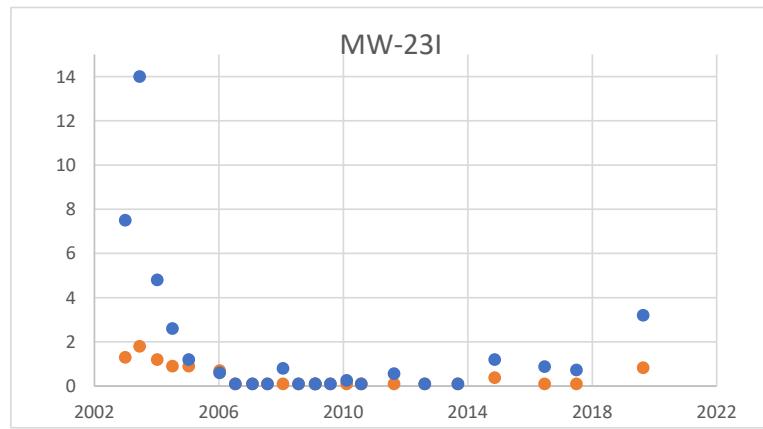
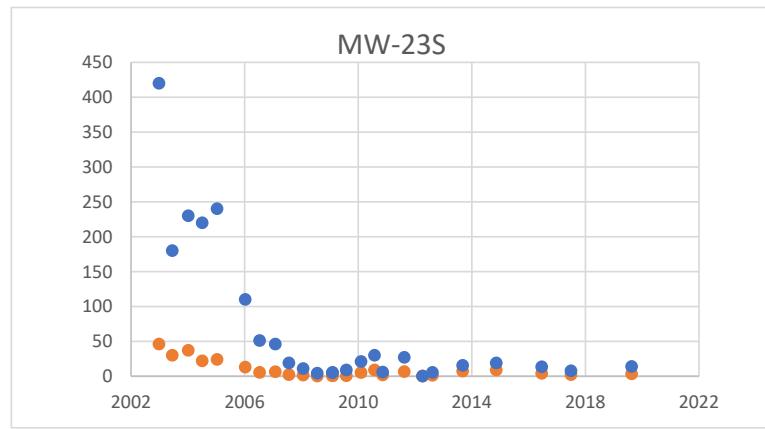
DESIGNER / PROFESSIONAL ENGINEER RESPONSIBLE
G.GANGYL
DESIGNED BY **K.CUSACK** FILE NO. **10726.51308**
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RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

PROJECT
**EVOR PHILLIPS LEASING COMPANY SITE
GROUNDWATER SCREENING REPORT**
ADDRESS **NEW JERSEY**

SHEET DESCRIPTION
CROSS SECTION
DRAWING LOCATION

FIG-4



Legend

- 1,2-dichloroethane concentration (ug/L)
- trichloroethene concentration (ug/L)

Notes:

Concentrations (y axis) in units of ug/L, displayed on linear scale

Sample results of ND (not-detected) were replaced with 0.1 ug/L for quantitative evaluation

FIGURE 5 - Time-Concentration Plots

Evon Phillips Leasing Company Site
Old Bridge, New Jersey

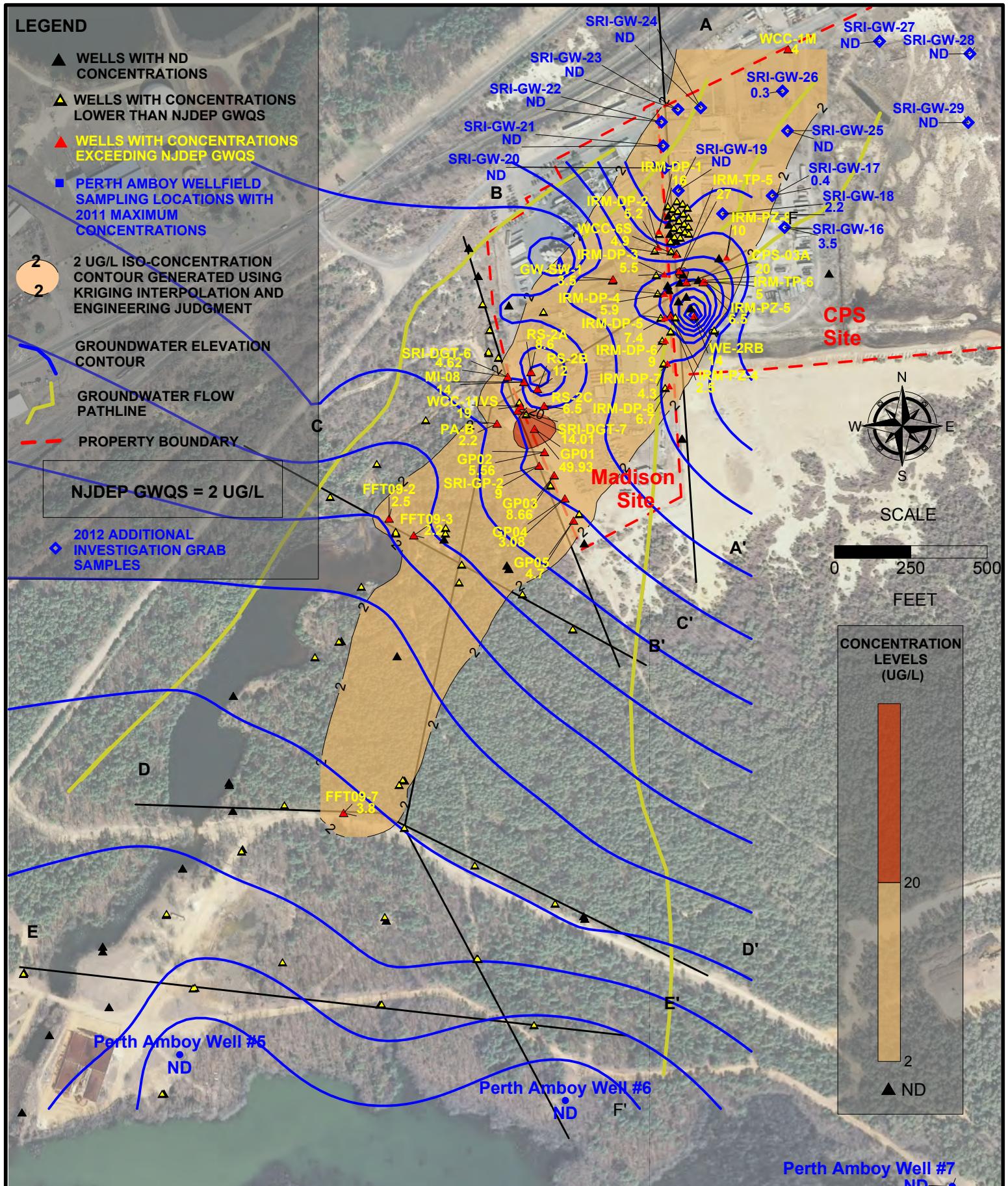
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ATTACHMENT A

**1,2-DCA AND TCE FIGURES – 2015 REMEDIAL INVESTIGATION REPORT,
CPS-MADISON SUPERFUND SITE**

LEGEND

- ▲ WELLS WITH ND CONCENTRATIONS
- ▲ WELLS WITH CONCENTRATIONS LOWER THAN NJDEP GWQS
- ▲ WELLS WITH CONCENTRATIONS EXCEEDING NJDEP GWQS
- PERTH AMBOY WELLFIELD SAMPLING LOCATIONS WITH 2011 MAXIMUM CONCENTRATIONS
- 2 UG/L ISO-CONCENTRATION CONTOUR GENERATED USING KRIGING INTERPOLATION AND ENGINEERING JUDGMENT
- GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW PATHLINE
- PROPERTY BOUNDARY
- NJDEP-GWQS = 2 UG/L
- 2012 ADDITIONAL INVESTIGATION GRAB SAMPLES



PRINCETON GEOSCIENCE, INC.
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SCALE:
SEE MAP

PREPARED BY:
LIC

PROJECT NO.:
08104

DATE:
9/2/2011

CHECKED BY:
JLP

FILE NAME:
12dca-planview

1,2-DICHLOROETHANE
IN GROUNDWATER
PLAN VIEW

CPS/MADISON SUPERFUND SITE
OLD BRIDGE, NEW JERSEY

LEGEND

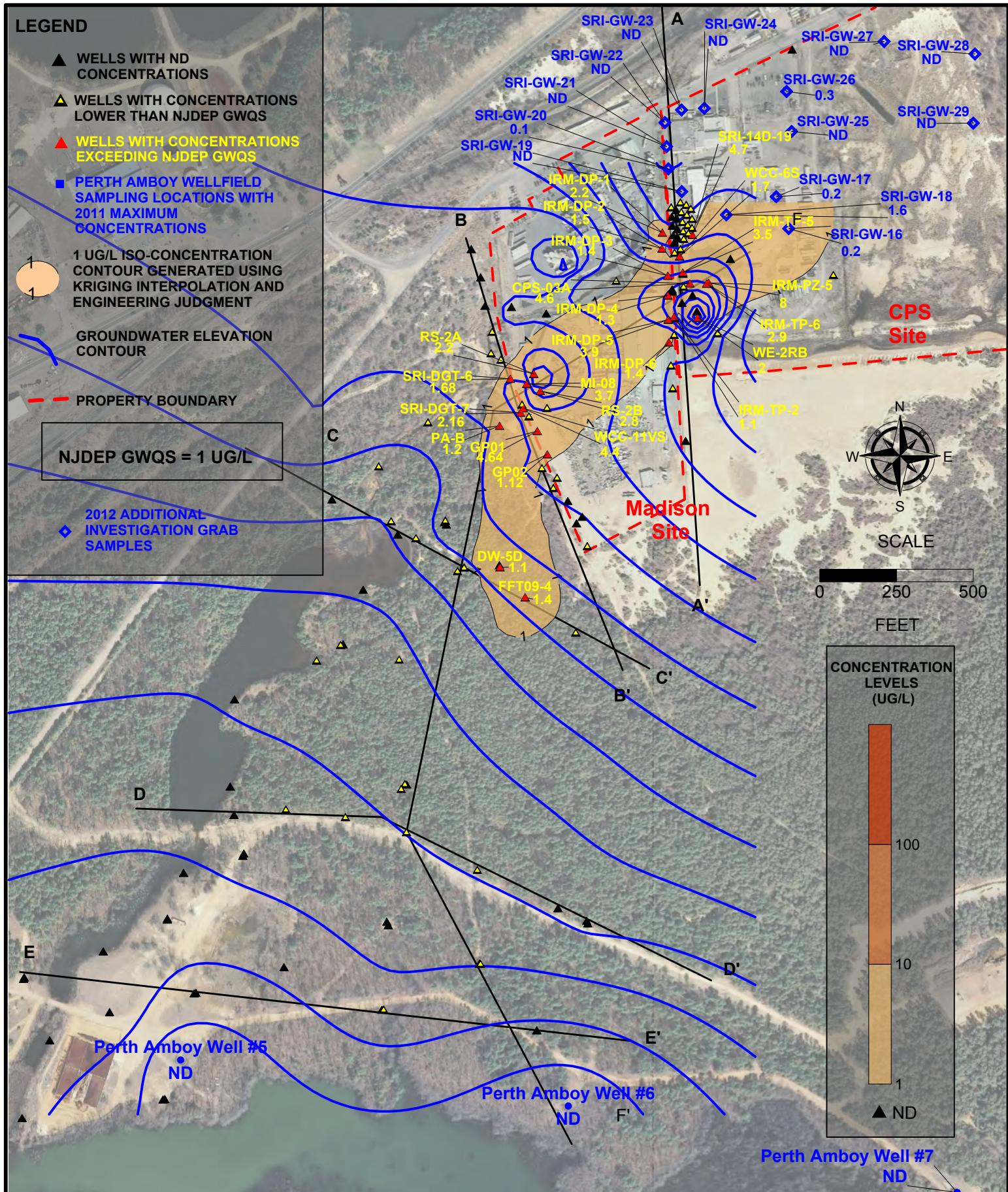
- ▲ WELLS WITH ND CONCENTRATIONS
- ▲ WELLS WITH CONCENTRATIONS LOWER THAN NJDEP GWQS
- ▲ WELLS WITH CONCENTRATIONS EXCEEDING NJDEP GWQS
- PERTH AMBOY WELLFIELD SAMPLING LOCATIONS WITH 2011 MAXIMUM CONCENTRATIONS

1 UG/L ISO-CONCENTRATION CONTOUR GENERATED USING KRIGING INTERPOLATION AND ENGINEERING JUDGMENT

GROUNDWATER ELEVATION CONTOUR

NJDEP GWQS = 1 UG/L

2012 ADDITIONAL INVESTIGATION GRAB SAMPLES



PRINCETON GEOSCIENCE, INC.
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SCALE:
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PREPARED BY:
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PROJECT NO.:
08104

DATE:
9/2/2011

CHECKED BY:
JLP

FILE NAME:
benz-planview

TRICHLOROETHYLENE
IN GROUNDWATER
PLAN VIEW

CPS/MADISON SUPERFUND SITE
OLD BRIDGE, NEW JERSEY

ATTACHMENT B

PROPOSED FUTURE SITE GROUNDWATER MONITORING WELLS

Evor Phillips Leasing Company (EPLC) Superfund Site | Old Bridge, New Jersey
Proposed Monitoring Well Network Summary
Attachment B

Well ID	Easting (NAD83)	Northing (NAD83)	TIC Elevation (ft MSL)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Top of Sample Interval (ft bgs)	Bottom of Sample Interval (ft bgs)
ISCO-MW-1	584,217.85	540,637.61	42.63	24	29	24	29
ISCO-MW-2	584,319.63	540,795.20	48.92	16	21	16	21
ISCO-MW-3	584,387.22	540,912.08	51.28	22	27	22	27
ISCO-MW-4	584,325.53	540,918.26	44.67	15	20	15	20
ISCO-MW-5	584,250.24	540,698.22	47.81	25	30	25	30
ISCO-MW-6	584,302.97	540,784.57	48.78	27	32	27	32
ISCO-MW-7	584,334.67	540,870.99	46.3	18	23	18	23
ISCO-MW-8	584,360.38	540,879.45	50.19	19	24	19	24
ISCO-MW-9	584,422.18	541,020.50	48.79	20	25	20	25
IW1-BT-2	540,925.16	584,418.94	52.39	15	35	24	29
IW1-DR-1	540,926.52	584,458.57	57.46	20	35	25	30
IW-4S	540,871.99	584,354.81	50.80	31	36	31	36
PZ-1S	540,551.93	584,158.57	44.24	20	30	22	27
MW-5I	540,691.57	584,309.75	49.74	30	40	30	35
MW-6S	540,482.53	584,118.03	43.54	17	32	22	27
MW-9I	540,610.57	584,300.26	48.40	32	42	32	37
MW-10S	540,619.21	584,165.36	45.27	15	30	23	28
MW-11I	540,543.75	584,212.88	47.92	27	37	27	32
MW-15D	540,495.94	584,398.81	41.88	90	100	90	95
MW-19S	540,887.95	584,582.32	56.09	19.5	35.5	28	33
MW-23S	540,625.52	583,937.55	27.89	20	30	20	25
MW-23I	540,620.38	583,935.25	27.89	50	60	55	60
MW-24	540,404.11	584,071.49	42.46	15	35	20	25
MW-28	541,108.40	584,474.91	49.87	15	35	23	28
WCC-1S	540,461.09	583,762.17	24.88	28	38	30	35
WCC-1M	540,452.25	583,758.98	26.42	45	55	48	53
EW-3	540,428.73	584,097.72	44.38	20	65	20	25
CPS-4	540,297.6	583,693.7	27.44	17	37	32	37
CPS-5	540,545.1	583,796.0	27.50	28	38	30	35

Notes:

TIC = top of Inner Casing

MSL = Mean Sea Level

BGS = Below Ground Surface

ATTACHMENT C

SOIL BORING LOGS

RAMBOLL		BORING LOG	REPORT OF BORING: SB-HP-9			
Client: Evor Phillips		Rig Type: Geoprobe 7720	Date: 4/23/2021			
Project Location: Old Bridge, NJ		Sample Type: Hydropunch	Hole Location:			
File No.: 1940074803.027.100					DEPTH TO WATER (ft, bgs)	
Boring Company: EPI					Water Table: 2-5'	
Foreman: Kenneth Friedrich					Other:	
OBG Geologist: Kyle Cusack						
Core Number	Depth Below Grade (ft bgs)	Sample Description	Pen./ Recovery	Groundwater Sample Interval/ID	Field Testing PID (ppm)	
0	0.0-5.0	0.0-5.0 moist/wet, tan-tannish gray f.-m.-some c. SAND, some rounded quartz pebbles and fragments (logged from soft dig), loose	Logged from soft dig		0.0	
1	5.0-10.0	5.0-7.1 wet, 10YR 7/3 very pale brown f.-m. SAND	5.0 / 3.1		0.0	
		7.1-10.0 wet, 10YR 7/6 yellow f.-m. SAND, coarsening downward, loose			0.0	
2	10.0-15.0	10.0-10.2 moist, 10YR 7/8 yellow f.-m. SAND, trace clay	5.0 / 3.5		0.0	
		10.2-11.3 wet, 10YR 7/8 f.-m.-some c. SAND			0.0	
		11.3-14.0 moist, 10YR 7/8 yellow f.-m. SAND, fining downward, moderately compacted			0.0	
		14.0-15.0 moist, 10YR 6/6 brownish yellow f.-m. SAND, compacted			0.0	
3	15.0-20.0	15.0-16.6 moist, f.-m.-some c. SAND, trace clay 16.4-16.6'	5.0 / 3.5		0.0	
		16.6-17.8 moist, 10YR 6/6 m.-c. SAND, some sa gravel			0.0	
		17.8-18.3 moist, yellowish brown m.-c. clayey SAND			0.0	
		18.3-18.7 moist, light gray-pale yellow CLAY, very plastic/compacted			0.0	
		18.7-19.3 moist, yellowish brown f.-m. sandy CLAY-clayey sand			0.0	
		19.3-20.0 moist, yellowish brown-very pale brown sandy CLAY-clayey sand			0.0	
4	20.0-25.0	20.0-21.0 moist, yellow-yellowish brown f.-m. SAND, trace clay 20.8-21.0'	5.0 / 3.6	Sample HP-9-20-22_042321 collected from 20.0-22.0' bgs	0.0	
		21.0-22.2 moist, yellow-yellowish brown f.-m.-some c. SAND			0.0	
		22.2-24.4 moist, 10YR 6/3 pale brown CLAY-clayey sand (mostly clay) with tan-yellowish brown banding, highly compacted, plastic, iron staining present			0.0	
		24.4-25.0 moist, 10YR 7/6 v.f.-f. SAND, mica flakes			0.2	
5	25.0-30.0	25-26.5 moist, 10YR 6/6 brownish yellow f.-m.-c. SAND, significant c. grains, some iron staining	5.0 / 3.5		0.0	
		26.5-30.0 moist, brownish yellow f.-m. SAND, more brown in coloration and more compacted 28.0-28.5'			0.1	
6	30.0-35.0	30.0-32.0 moist, yellowish brown f.-m.-c. SAND, some iron staining	5.0 / 3.0	Sample HP-9-34-36_042321 collected from 34.0-36.0' bgs	0.0	
		32.0-32.5 moist, 10YR 6/6 brownish yellow m.-c.-v.c. SAND			0.0	
		32.5-35.0 moist, f.-m. SAND, some iron staining, clay 34.75-35.0'			0.0	
7	35.0-40.0	35.0-36.5 wet, 10YR 6/6 brownish yellow m.-c.-v.c. SAND, trace fines	5.0 / 4.0		0.0	
		36.5-38.8 moist 10YR 7/2 light gray CLAY, highly compacted, plastic			0.1	
		38.8-40.0 moist, 10YR 6/6 brownish yellow v.f.-f.-some m. SAND			0.1	
8	40.0-45.0	40.0-45.0 moist, 10YR brownish yellow v.f.-f.-m. SAND, uniform grain sizing throughout core	5.0 / 4.2		0.0	
9	45.0-50.0	45.0-48.0 moist, 10YR 6/4 light yellowish brown f.-m.-trace v.f. SAND	5.0 / 4.0	Sample HP-9-47-49_042321 collected from 47.0-49.0' bgs	0.1	
		48.0-50.0 moist, 10YR 6/8 brownish yellow f.-m.-trace v.f. SAND, iron staining			0.0	
		END OF BORING				

Notes:

Recovery affected by compression and running sands

Running sands encountered between 5-10' bgs

RAMBOLL			BORING LOG		REPORT OF BORING: SB-HP-11		
Client:	Evor Phillips	Rig Type:	Geoprobe 7720	Date:	4/28/2021		
Project Location:	Old Bridge, NJ	Sample Type:	Hydropunch	Hole Location:			
File No.:	1940074803.027.100			DEPTH TO WATER (ft, bgs)			
Boring Company:	EPI			Water Table:	2-5'		
Foreman:	Kenneth Friedrich			Other:			
OBG Geologist:	Kyle Cusack						
Core Number	Depth Below Grade (ft bgs)	Sample Description			Pen./ Recovery	Groundwater Sample Interval/ID	Field Testing PID (ppm)
0	0.0-5.0	0.0-5.0 moist/wet, tan-grayish tan f.-m. some c. SAND, trace silt, some clay ~1.0, frequent rounded m. I. quartz pebbles and fragments (logged from soft dig), loose			Logged from soft dig		0.0
1	5.0-10.0	5.0-6.0 wet, 2.5Y 5/2 grayish brown f.-m. SAND 6.0-8.5 wet, 2.5Y 6/8 olive yellow f.-m.-c. SAND, some rounded quartz pebbles and fragments 8.5-9.7 wet, 2.5Y 5/4 light olive brown m.-c.-v.c. SAND, frequent m.-l. rounded quartz pebbles to s.a. fragments 9.7-10.0 wet, olive yellow m. clayey SAND			5.0 / 4.0		0.0
2	10.0-15.0	10.0-11.8 wet, m.-c.-v.c. SAND, trace clay toward bottom 11.8-15.0 wet, 2.5Y 5/6 light olive brown f.-m. SAND, well compacted			5.0 / 3.5		0.0
3	15.0-20.0	15.0-20.0 wet, olive yellow f.-m.-c. SAND, mostly m.-c., some iron staining to reddish yellow, clay 15.4-15.5', reddening with coarser grains and some iron concretions 19.5-20.0'			5.0 / 3.5		0.0
4	20.0-25.0	20.0-21.4 wet, olive yellow-brownish yellow m.-c.-v.c. SAND 21.4-22.8 wet, very pale brown clayey v.f.-f. SAND, somewhat plastic, some red-gray streaks 22.8-25.0 wet, olive yellow v.f.-f. SAND, some red iron staining present			5.0 / 3.3	Sample HP-11-19-21_042821 collected from 19.0-21.0' bgs	0.0
5	25.0-30.0	25.0-25.7 wet, olive yellow f.-some m. SAND 25.7-28.9 wet, sandy CLAY-clayey sand, mostly clay to 27' then mostly sand 28.9-30.0 wet 5YR 6/8 reddish yellow f.-m. SAND			5.0 / 3.3		0.0
6	30.0-35.0	30.0-30.9 wet olive yellow f.-m. SAND, very pale brown 2" thick clay at bottom 30.9-33.0 wet olive yellow f.-m. SAND, 2" thick sandy clay-clayey sand at bottom 33.0-34.8 wet olive yellow f.-m. SAND			5.0 / 3.8	Sample HP-11-31-33_042821 collected from 31.0-33.0' bgs. RESAMPLED 4/30/21	0.0
7	35.0-40.0	34.8-35.0 wet olive yellow f.-m. SAND, some gray grains and gray s.a. gravel at bottom 35.0-36.5 wet olive yellow some red f.-m. SAND 36.5-38.0 wet, 10YR 5/1-5/4 gray to dark gray f.-m. clayey sand-sandy CLAY			5.0 / 4.0		0.0
8	40.0-45.0	38.0-38.8 wet, gray f.-m. SAND 38.8-39.3 wet, gray-dark gray f.-m. SAND 39.3-40.0 wet, gray-olive yellow f.-m. SAND, some clay ~ 39.6 40.0-45.0 wet, f.-m. SAND-clay, sand olive yellow-reddish yellow, clay very pale brown w/ red banding, clay from 40.0-40.3', 41.0-41.3', 41.7-42.0', 42.3-42.4', 42.9-43.2', 43.5-43.9', 44.4-45.0'			5.0 / 4.5		0.0
9	45.0-50.0	45.0-47.2 wet, very pale brown f.-m. CLAY-sandy clay, some red banding 47.2-49.0 wet, reddish yellow-10YR 6/4 light yellowish brown f.-m. SAND 49.0-50.0 wet, 2.5Y olive yellow f.-m. SAND, some iron staining, hard/compacted with trace clay			5.0 / 4.0	Sample HP-11-48-50_042821 collected from 48.0-50.0' bgs. RESAMPLED 4/30/21. DUP collected here	0.0
		END OF BORING					0.0

Recovery affected by compression and running sands

Running sands encountered between 5-10' bgs

RAMBOLL		BORING LOG	REPORT OF BORING: SB-HP-12			
Client: Evor Phillips		Rig Type: Geoprobe 7720	Date: 4/29/2021			
Project Location: Old Bridge, NJ		Sample Type: Hydropunch	Hole Location:			
File No.: 1940074803.027.100						
Boring Company: EPI		DEPTH TO WATER (ft, bgs)				
Foreman: Kenneth Friedrich		Water Table: 2-5'				
OBG Geologist: Kyle Cusack		Other:				
Core Number	Depth Below Grade (ft bgs)	Sample Description	Pen./ Recovery	Groundwater Sample Interval/ID	Field Testing	
					PID (ppm)	
0	0.0-5.0	0.0-5.0 moist/wet, tan-tanish gray f.-m.-some c. SAND, trace silt, trace rounded quartz pebbles and fragments ~3.0 (logged from soft dig), loose	Logged from soft dig		0.0	
1	5.0-10.0	5.0-8.0 wet, 10YR 7/3 very pale brown f.-m.-c. SAND, some silt	5.0 / 3.2		0.0	
		8.0-10.0 wet, olive yellow f.-m.-c. SAND some v.c. grains, some s.a.-rounded quartz pebbles/fragments			0.0	
2	10.0-15.0	10.0-11.8 wet, olive yellow f.-m.-c. SAND some v.c. grains, some s.a.-rounded quartz pebbles/fragments	5.0 / 3.3		0.0	
		11.8-12.2 wet, sandy CLAY, well compacted, plastic			0.0	
		12.2-15.0 wet, 2.5Y 7/8 yellow m.-c. SAND, some reddening from 13.0-15.0			0.0	
3	15.0-20.0	15.0-17.5 wet, 5YR 5/6 yellowish red m.-c.-v.c. SAND	5.0 / 3.4		0.0	
		17.5-18.5 wet, 5YR 5/6 yellowish red c.-v.c. SAND			0.0	
		18.5-19.5 wet, olive yellow m.-c.-v.c. SAND			0.0	
		19.5-20.0 wet, olive yellow f.-m. SAND some silt			0.0	
4	20.0-25.0	20.0-20.9 wet, 10YR 6/8 brownish yellow f. SAND, some silt	5.0 / 1.2	Sample HP-12-21 23.042921 collected from 21.0-23.0' bgs. RESAMPLED 4/30/21	0.0	
		20.9-21.1 wet, brownish yellow c.-v.c SAND, some silt			0.0	
		21.1-25.0 No recovery, stopper was lost, recovered material likely top of core			0.0	
5	25.0-30.0	25.0-26.5 wet, olive yellow silty v.f.-f. SAND	5.0 / 3.5		0.0	
		26.5-27.0 wet, very pale brown-light gray sandy CLAY, well compacted, plastic			0.0	
		27.0-30.0 wet v.f.-f. SAND, somewhat silty, minor clay patches ~28.5 and 29.1			0.0	
6	30.0-35.0	30.0-31.2 wet, olive yellow v.f.-f.m. silty SAND, trace clay ~31.2	5.0 / 3.5		0.0	
		31.2-33.7 wet, mostly f.-m. SAND, trace clay at 33', clay 33.5-33.7'			0.0	
		33.7-35.0 wet, olive yellow f.-m. SAND, trace clay ~34.3', sand coarsens below clay			0.0	
7	35.0-40.0	35.0-36.1 wet, olive yellow-yellow f.-m. SAND	5.0 / 3.3	Sample HP-12-34 36.042921 collected from 34.0-36.0' bgs. RESAMPLED 4/30/21	0.0	
		36.1-36.3 wet, clayey f.-m. SAND			0.0	
		36.3-38.0 wet, f.-m. SAND olive yellow-pale brown, some gray patches			0.0	
		38.0-40.0 wet, 10YR 6/6 brownish yellow f.-m. SAND, some gravel ~39.5'			0.0	
8	40.0-45.0	40-41.1 wet, f.-m. olive yellow SAND, well compacted	5.0 / 4.0		0.0	
		41.1-41.4 wet clayey sand-CLAY very pale brown with red banding			0.0	
		41.4-42.5 wet f.-m. olive yellow SAND			0.0	
		42.5-43.1 wet clayey sand-CLAY toward bottom, moderate plasticity/compaction		Sample HP-12-44 46.042921 collected from 44.0-46.0' bgs. RESAMPLED 4/30/21	0.0	
		43.1-45.0 wet, very pale brown f.-m. SAND, trace clay at core bottom			0.0	
9	45.0-50.0	45.0-46.0 wet, f.-m. SAND very pale brown	5.0 / 4.4		0.0	
		46.0-46.4 wet, yellowish red f.-m. SAND, clay 46.2-46.4'			0.0	
		46.4-47.5 wet, reddish yellow f.-m. SAND, clay 47.3-47.5'			0.0	
		47.5-48.2 wet, reddish yellow f.-m. SAND, clay 47.9-48.2'			0.0	
		48.2-50.0 wet f.-m. reddish yellow SAND, clay 49.0-49.2' and 49.4-49.6' (END OF BORING)			0.0	

Notes:

Recovery affected by compression and running sands

Running sands encountered between 5-10' bgs

